

WHAT IS CLAIMED IS:

1 1. A system for loading configuration data into a programmable device,
2 the system comprising:
3 a configuration word register comprising a plurality of configuration blocks;
4 a plurality of configuration inputs selectively coupled with each of the
5 plurality of configuration blocks and adapted to communicate configuration data; and
6 a plurality of command inputs adapted to independently enable loading of at
7 least one of the plurality of configuration blocks, wherein the plurality of configuration
8 blocks are adapted to simultaneously load configuration data via the plurality of configuration
9 inputs in response to the plurality of command inputs.

1 2. The system of claim 1, wherein each of the plurality of configuration
2 blocks is coupled with one of the plurality of command inputs.

1 3. The system of claim 1, wherein at least one configuration block
2 comprises a plurality of bits equal in number to the number of configuration inputs.

1 4. The system of claim 3, wherein at least one configuration block
2 comprises one or more bits, such that the total number of bits is less than the number of
3 configuration inputs.

1 5. The system of claim 1, further comprising:
2 a configuration memory having a plurality of memory locations and coupled
3 with the configuration word register, wherein the configuration memory is adapted to load
4 configuration data from the configuration word register.

1 6. The system of claim 1, further comprising:
2 a configuration mode input; and
3 a configuration controller coupled with the configuration mode input, wherein,
4 in response to a first state of the configuration mode input, the configuration controller is
5 adapted to enable the plurality of configuration blocks to simultaneously load configuration
6 data via the plurality of configuration inputs in response to the plurality of command inputs,
7 and, in response to a second state of the configuration mode input, the configuration
8 controller is adapted to enable loading of configuration data into the configuration word
9 register via an alternate coupling with configuration data.

- 1 7. The system of claim 6, wherein the alternate coupling with
2 configuration data is via the plurality of configuration inputs.
- 1 8. The system of claim 6, wherein the alternate coupling with
2 configuration data is via the plurality of command inputs.
- 1 9. The system of claim 6, wherein the alternate coupling with
2 configuration data is adapted to simultaneously load a one bit of configuration data into each
3 of the configuration blocks.
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- 1 10. A method for loading configuration data for a configuration word
2 comprised of a plurality of configuration blocks into a programmable device, the method
3 comprising:
4 receiving a command word via a plurality of command inputs designating a
5 first subset of the plurality of configuration blocks;
6 receiving a data word comprising a portion of the configuration data for
7 configuration word via a plurality of configuration inputs; and
8 simultaneously loading the data word into each one of the subset of
9 configuration blocks designated by the command word.
- 1 11. The method of claim 10, wherein the steps of receiving the command
2 word, receiving the data word, and loading the data word are repeated for a second data word
3 and a second command word designating a second subset of the plurality of configuration
4 blocks.
- 1 12. The method of claim 11, wherein the second subset of the plurality of
2 configuration blocks does not intersect the first subset of the plurality of configuration blocks.
- 1 13. The method of claim 10, wherein the command word comprises a
2 plurality of command bits, such that each command bit is associated with one of the plurality
3 of configuration blocks.
- 1 14. The method of claim 10, wherein at least one configuration block in
2 the first subset of the plurality of configuration blocks comprises a plurality of bits equal in
3 number to the number of configuration inputs.

1 15. The method of claim 10, further comprising:
2 loading configuration data from the plurality of configuration blocks into a
3 memory location in a configuration memory.

1 16. The method of claim 10, further comprising:
2 receiving a configuration mode via a configuration mode input;
3 enabling the first subset of the plurality of configuration blocks to
4 simultaneously load configuration data via the plurality of configuration inputs in response to
5 a first state of the configuration mode; and
6 loading configuration data into the plurality of configuration blocks via an
7 alternate communication means in response to a second state of the configuration mode.

1 17. The method of claim 16, wherein the alternate communication means
2 is via the plurality of configuration inputs.

1 18. The method of claim 16, wherein the alternate communication means
2 is via the plurality of command inputs.

1 19. The method of claim 16, wherein loading configuration data into the
2 plurality of configuration blocks comprises:
3 simultaneously loading one bit of configuration data into each of the plurality
4 of configuration blocks.

1 20. The method of claim 10, further comprising:
2 testing the programmable device loaded with the configuration data.

1 21 The method of claim 20, further comprising:
2 repeating with a second set of configuration data the steps of receiving a
3 command word, receiving a data word, loading the data word, and testing in order to test the
4 programmable device loaded with the second set of configuration data.

1 22. A system having a plurality of devices, the system comprising:
2 a programmable device including:

3 a configuration word register comprising a plurality of configuration
4 blocks,
5 a plurality of configuration inputs selectively coupled with each of the
6 plurality of configuration blocks and adapted to communicate configuration data, and
7 a plurality of command inputs adapted to independently enable at least
8 one of the plurality of configuration blocks, wherein the plurality of configuration blocks are
9 adapted to simultaneously load configuration data via the plurality of configuration inputs in
10 response to the plurality of command inputs; and
11 an interface for connecting the programmable device with a configuration data
12 source.

1 23. The system of claim 21, further including:
2 a configuration source having a set of configuration data and adapted to
3 communicate the set of configuration data with the programmable device.

1 24. The system of claim 23, wherein the configuration source includes a
2 plurality of different sets of configuration data and is adapted to test the programmable device
3 by successively communicating each of the plurality of different sets of configuration data
4 with the programmable device.